

IMAGES IN EMERGENCY MEDICINE**Infectious Disease**

Man with productive cough

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1 | PATIENT PRESENTATION

We show a computed tomography (CT) scan of a 53-year-old male with stage IV mucinous (ALK)-rearranged lung adenocarcinoma responding to Lorlatinib (ALK-inhibitor, targeted therapy) (Figure 1). He presented to the emergency department with a productive cough, developing acute hypoxic respiratory failure requiring 10 L supplemental oxygen, and was subsequently admitted to the hospital for 14 days. His CT



FIGURE 1 Chest CT for patient on Lorlatinib. Chronic large right side pleural effusion, right sided chest mass, and diffuse ground glass opacities concerning for drug induced pneumonitis versus Covid-19

scan was remarkable for improving right perihilar mass, recurrent, and stable large right-sided pleural effusion, and diffuse bilateral ground glass opacities concerning for COVID-19 versus drug-induced pneumonitis. Laboratory tests were remarkable for lymphopenia, ferritin of 550 ng/mL, C-reactive protein (CRP) 8.2 mg/dL, and a D-dimer 3.0 mcg FEU/mL. Initial influenza and respiratory viral panels were negative. COVID-19 PCR testing took 10 days to result, subsequently returning positive. The patient completed treatment for possible community-acquired pneumonia in the hospital and had received 1 dose of methylprednisolone IV for possible Lorlatinib-induced pneumonitis. At time of hospital discharge, he dramatically improved and was discharged on room air, without new medications, with plans to restart Lorlatinib.

This case demonstrates the challenge of differentiating between tyrosine-kinase inhibitor-induced pneumonitis and COVID-19, further illustrating the need for rapid emergent COVID-19 testing in high risk patients. Currently COVID-19 polymerase chain reaction (PCR) represents the only way to differentiate drug-induced pneumonitis from COVID-19. It is imperative that emergency physicians recognize the adverse effects of cancer immunotherapy and be in immediate communication with the treating oncologist, because early intervention is crucial in the treatment of drug-induced pneumonitis.

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